

CLAIMS

What is claimed is:

1. A contact for electrically operated II/VI semiconductor structures, characterized in that lithium nitride is disposed between the semiconductor structure and the other contact layers.
2. The contact of claim 1 characterized in that the lithium nitride is covered by further contact layers.
3. The contact of claim 2, wherein the lithium nitride layer is protected laterally by insulating layers.
4. A process for forming a contact for an electrically operated II/VI semiconductor structure comprising a semiconductor and at least one further contact layer, the process comprising the step of:

using lithium nitride (Li_3N) as a contact material between the semiconductor and the further contact layers.
5. The process of claim 4, wherein the lithium nitride (Li_3N) is applied as a contact material to the sample surface by means of vapor deposition and/or sputtering.
6. The process of claim 5, comprising:

covering the lithium nitride layer by one or more further contact layers.
7. The process of claim 6, comprising:

protecting the lithium nitride layer laterally by insulating layers.

8. The process of claim 7, comprising:
tempering a resultant semiconductor laser structure after the coating operation.
9. The process of claim 4, wherein a thin bonding layer is used between the semiconductor and the lithium nitride.
10. A contact structure for an electrically operated II/VI semiconductor element comprising:
a p-doped semiconductor layer of II/VI semiconductor material which is joined by way of a contact layer to a metal contact, wherein the contact layer comprises lithium nitride and is of a thickness of between 2 nm and 20 nm.
11. The contact structure of claim 10 wherein at least one further contact layer is arranged between the contact layer of lithium nitride and the metal contact.
12. The contact structure of claim 11, wherein the contact layer of lithium nitride is protected laterally by insulating layers.
13. The contact structure of claim 12, wherein a thin bonding layer is arranged between the semiconductor laser of II/VI semiconductor material and the contact layer of lithium nitride.
14. The contact structure of claim 12, wherein the II/VI semiconductor element includes a laser structure.
15. A process for the production of a contact structure as set forth in claim 14, wherein the lithium nitride for forming the contact layer of

lithium nitride is applied to the semiconductor layer of II/VI semiconductor material by means of vapor deposition and/or sputtering.

16. The process of claim 15, wherein the II/VI semiconductor element is tempered after the coating operation in order further to reduce the contact resistance.

17. The contact of claim 2, wherein the further contact layers protect against oxidation.

18. The contact of claim 1, wherein the lithium nitride layer is protected laterally by insulating layers.

19. The process of claim 4, comprising:
covering the lithium nitride layer by one or more further contact layers.

20. The process of claim 19, comprising:
protecting the lithium nitride layer laterally by insulating layers.

21. The process of claim 4, comprising:
protecting the lithium nitride layer laterally by insulating layers.

22. The process of claim 4, comprising:
tempering a resultant semiconductor laser structure after the coating operation.

23. The process of claim 9, wherein the thin bonding layer is applied by metalization.

24. The contact structure of claim 10, wherein the contact layer of lithium nitride is protected laterally by insulating layers.
25. The contact structure of claim 10, wherein a thin bonding layer is arranged between the semiconductor laser of II/VI semiconductor material and the contact layer of lithium nitride.
26. The contact structure of claim 11, wherein a thin bonding layer is arranged between the semiconductor laser of II/VI semiconductor material and the contact layer of lithium nitride.
27. The contact structure of claim 10, wherein the II/VI semiconductor element includes a laser structure.
28. The contact structure of claim 11, wherein the II/VI semiconductor element includes a laser structure.